

# Installation instructions for contractors

**VIESMANN**

## **Vitocell 300-B Type EVBA-A**

Dual mode DHW cylinder, 300 and 500 l

### **VITOCCELL 300-B**



## Safety instructions



Please follow these safety instructions closely to prevent accidents and material losses.

### Safety instructions explained



#### **Danger**

This symbol warns against the risk of injury.

#### **Note**

*Details identified by the word "Note" contain additional information.*



#### **Please note**

This symbol warns against the risk of material losses and environmental pollution.

### Target group

These instructions are exclusively intended for qualified contractors.

- Work on electrical equipment may only be carried out by a qualified electrician.

### Regulations to be observed

- National installation regulations
- Statutory regulations for the prevention of accidents
- Statutory regulations for environmental protection
- Codes of practice of the relevant trade associations
- All relevant safety regulations as defined by DIN, EN, DVGW, VDE and locally applicable standards
  - Ⓐ ÖNORM, EN and ÖVE
  - Ⓒ SEV, SUVA, SVTI, SWKI and SVGW

### Working on the system

- Isolate the system from the power supply (e.g. by removing the separate fuse or by means of a mains isolator) and check that it is no longer live.
- Safeguard the system against reconnection.
- Wear protective clothing.



#### **Danger**

Hot surfaces can cause burns.

- Before maintenance and service work, switch OFF the appliance and let it cool down.
- Never touch the hot surfaces of uninsulated pipes and fittings.



#### **Please note**

Electronic assemblies can be damaged by electrostatic discharge.  
Prior to commencing any work, touch earthed objects such as heating or water pipes to discharge static loads.

### Repair work



#### **Please note**

Repairing components that fulfil a safety function can compromise the safe operation of the system.  
Replace faulty components only with genuine Viessmann spare parts.

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## Disposal of packaging










Please dispose of packaging waste in line with statutory regulations.

**DE:** Use the disposal system organised by Viessmann.

**AT:** Use the ARA statutory disposal system (Altstoff Recycling Austria AG, licence number 5766).

**CH:** Packaging waste is disposed of by the HVAC contractor.

## Symbols

Symbol	Meaning
	Reference to other document containing further information
	Step in a diagram: The numbers correspond to the order in which the steps are carried out.
	Warning of material losses and environmental pollution
	Live electrical area
	Pay particular attention.
	<ul style="list-style-type: none"> <li>▪ Component must audibly click into place.</li> <li>or</li> <li>▪ Acoustic signal</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Fit new component.</li> <li>or</li> <li>▪ In conjunction with a tool: Clean the surface.</li> </ul>
	Dispose of component correctly.
	Dispose of component at a suitable collection point. Do <b>not</b> dispose of component in domestic waste.

## Intended use

The appliance is only intended to be installed and operated in sealed unvented systems that comply with EN 12828 / DIN 1988, or solar thermal systems that comply with EN 12977, with due attention paid to the associated installation, service and operating instructions. DHW cylinders are only designed to store and heat water of potable water quality. Heating water buffer cylinders are only designed to hold fill water of potable water quality. Only operate solar collectors with the heat transfer medium approved by the manufacturer.

Intended use presupposes that a fixed installation in conjunction with permissible, system-specific components has been carried out.

Commercial or industrial usage for a purpose other than heating the building or DHW shall be deemed inappropriate.

Any usage beyond this must be approved by the manufacturer for the individual case.

Incorrect usage or operation of the appliance (e.g. the appliance being opened by the system user) is prohibited and results in an exclusion of liability.

Incorrect usage also occurs if the components in the system are modified from their intended use (e.g. through direct DHW heating in the collector).

Adhere to statutory regulations, especially concerning the hygiene of potable water.

## Product information

Stainless steel DHW cylinder with internal indirect coil for DHW heating in conjunction with solar thermal systems, floorstanding and wall mounted boilers and/or heat pumps for dual mode operation.

- Capacity: 300 and 500 l
- An immersion heater can be used.
- Suitable for systems conforming to DIN 1988, EN 12828 and DIN 4753

## Connections

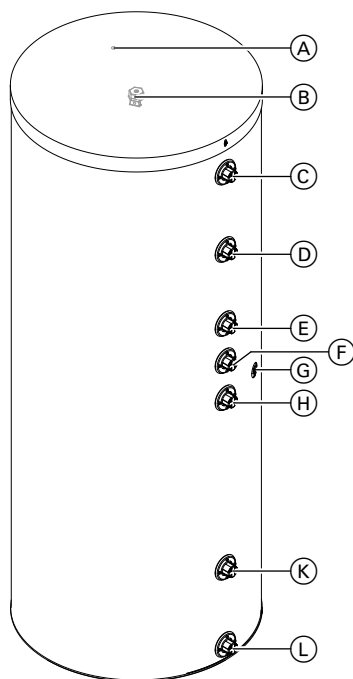


Fig. 1 300 litres

- Ⓐ Temperature controller (upper indirect coil) (below the thermal insulation)
- Ⓑ Cylinder temperature sensor and safety limiter (below the thermal insulation)
- Ⓒ DHW
- Ⓓ Heating water flow\*<sup>1</sup> (upper indirect coil)
- Ⓔ DHW circulation
- Ⓕ Heating water return (upper indirect coil)
- Ⓖ Cylinder temperature sensor or temperature controller and thermometer sensor (lower indirect coil)<sup>2</sup>
- Ⓗ Heating water flow\*<sup>3</sup> (lower indirect coil)
- Ⓚ Heating water return and cylinder temperature sensor for solar operation<sup>2\*3</sup>
- Ⓛ Cold water

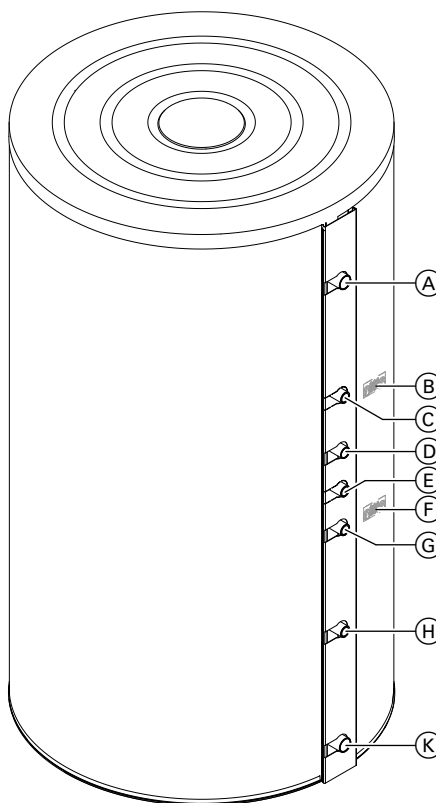


Fig. 2 500 litres

- Ⓐ DHW
- Ⓑ Clamp (behind the thermal insulation) for cylinder temperature sensor or temperature controller (upper indirect coil)
- Ⓒ Heating water flow\*<sup>1</sup> (upper indirect coil)
- Ⓓ DHW circulation
- Ⓔ Heating water return (upper indirect coil)
- Ⓕ Clamp (behind the thermal insulation) for cylinder temperature sensor or temperature controller and thermometer sensor (lower indirect coil)<sup>2</sup>
- Ⓖ Heating water flow\*<sup>3</sup> (lower indirect coil)
- Ⓗ Heating water return and cylinder temperature sensor for solar operation<sup>2\*3</sup>
- Ⓚ Cold water

Cylinder capacity	Maximum connectable heat pump output (upper and lower indirect coils linked in series):
300 l	12 kW
500 l	15 kW

## Siting information

- !** **Please note**  
 The thermal insulation must not come into contact with naked flames.  
 Exercise caution when welding and brazing.

\*<sup>1</sup> The upper indirect coil is designed for connection to a boiler.

\*<sup>2</sup> Recommended positioning of the cylinder temperature sensor for solar operation:  
 With threaded elbow (accessories) in the heating water return.

\*<sup>3</sup> The lower indirect coil is designed for connection to solar collectors.

## Siting information (cont.)



### Please note

To prevent material losses, install the DHW cylinder in a room free from draughts and risk of frost.

When not in use, the DHW cylinder must be drained if there is a risk of frost.

- Provide adequate clearance from the wall to allow for operation of the temperature controller (if installed).
- Use the adjustable feet to level the DHW cylinder.

### Note

**Never extend the adjustable feet beyond a total length of 35 mm.**

## Siting the DHW cylinder with immersion heater

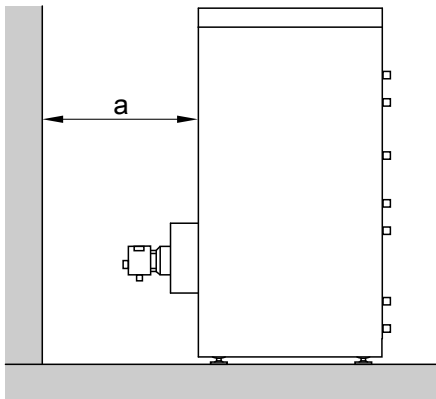


Fig. 3



Immersion heater installation instructions

Maintain the minimum clearance.

Cylinder capacity	Dim. a
300 l	730 mm
500 l	670 mm

### Note

*The unheated length of any threaded immersion heater installed on site must be at least 100 mm.*

Installing leads for the thermometer sensor and temperature controller sensor

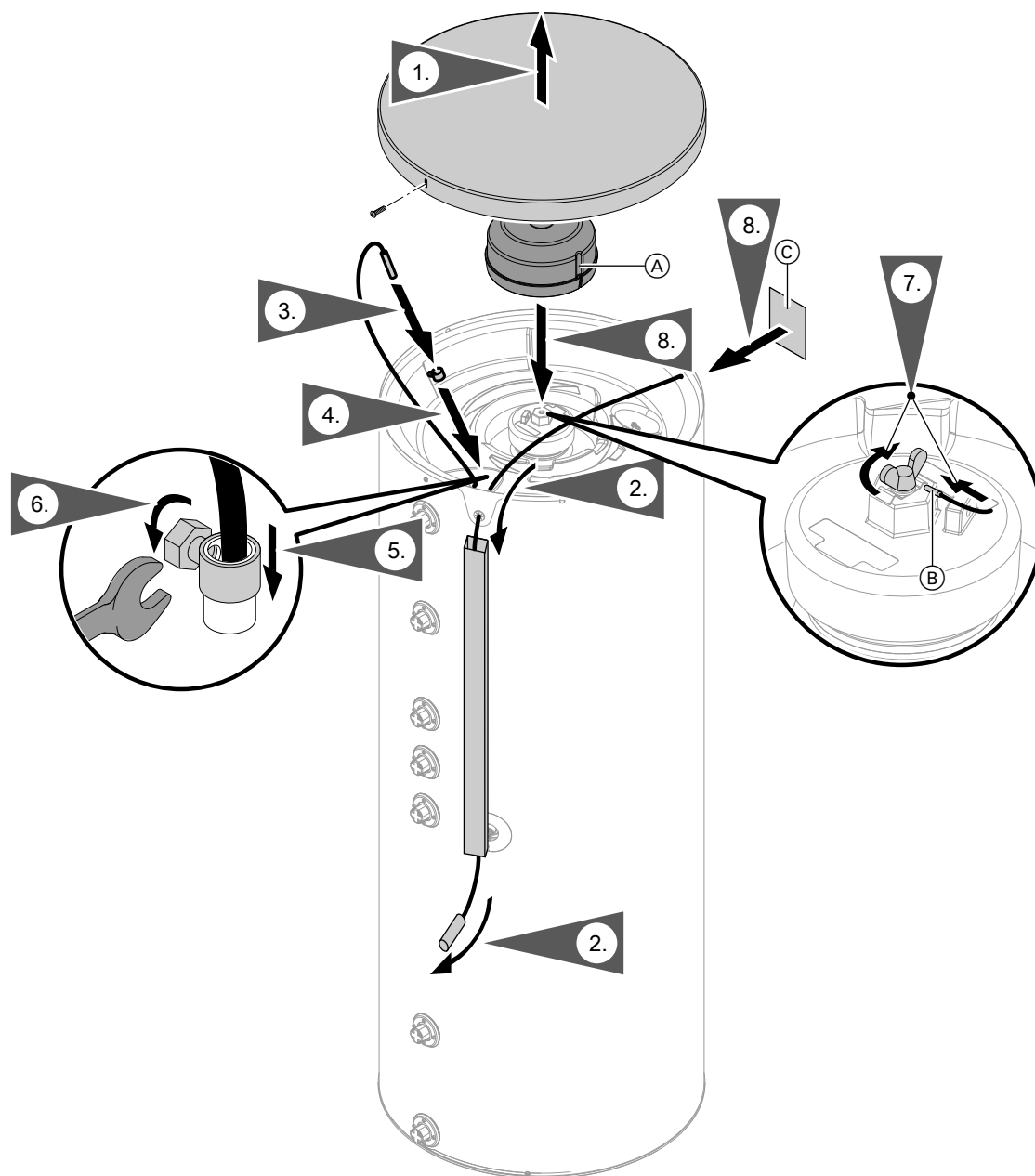


Fig. 4

(A) Type plate

1. Remove top panel, thermal insulation, and parts for flange cover installation.
  2. Route the sensor lead of the lower thermometer downwards through the opening in the thermal insulation and the cable channel.
  3. Push the sensor lead through the strain relief sleeve and route to the sensor well.
  4. Fit the strain relief sleeve to the sensor well.
  5. Push the cylinder temperature sensor into the sensor well as far as it will go.
- Note**  
*Never wrap insulating tape around the sensor.*
6. Secure sensor lead with strain relief sleeve.
  7. If a high limit safety cut-out is installed:
    - Cut out opening (A) on flange insulation.
    - Push high limit safety cut-out sensor (B) into clamping bracket, and secure with wing screw.
  8. Remount the flange insulation and top panel.



9. Affix type plate ©.

**Installing the sensor well and the cylinder temperature sensor**

**Note**

*The sensor retainer is in the sensor well.*

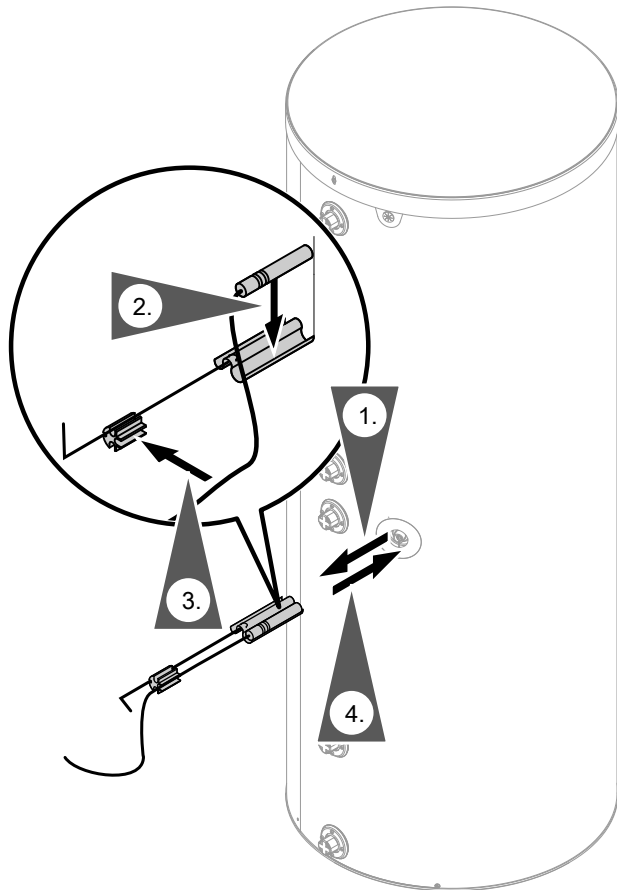


Fig. 5

1. Extract the sensor retainer.
2. Fit the sensor to the outside of the sensor retainer contact spring (not in the groove).

**Note**

- *The sensor must sit flush with the front of the spring.*
- **Never wrap insulating tape around the sensor.**

3. Insert the sensor retainer with sensor into the sensor well as far as it will go.

Fitting the flange cover

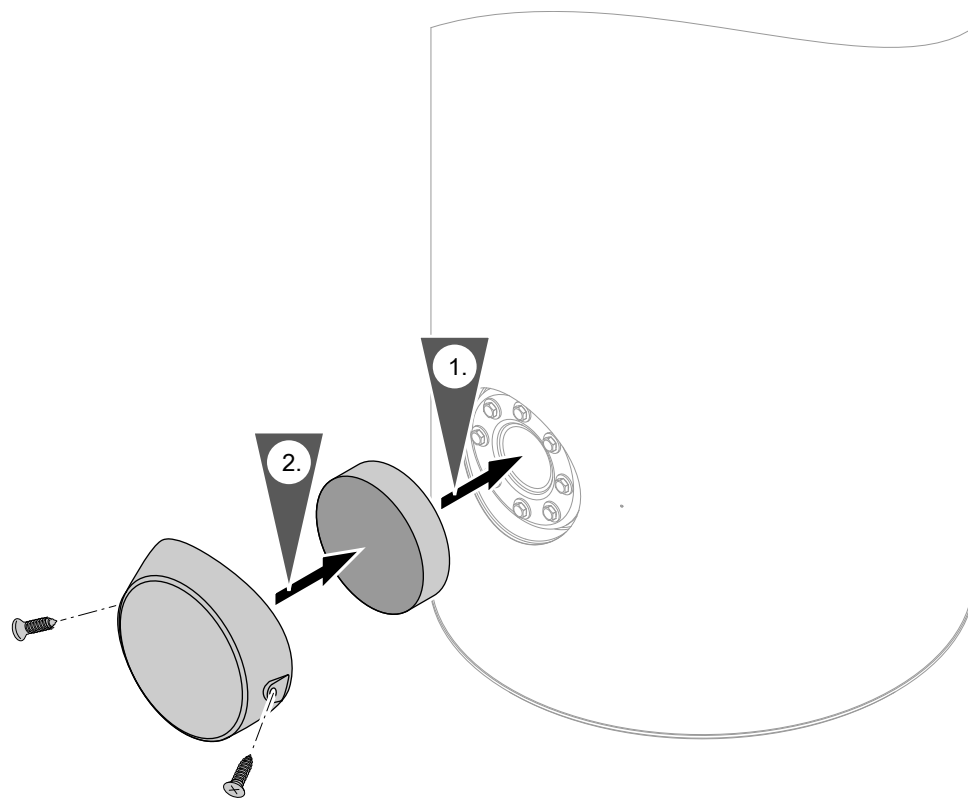


Fig. 6

Siting the DHW cylinder and fitting the thermal insulation mat at the bottom

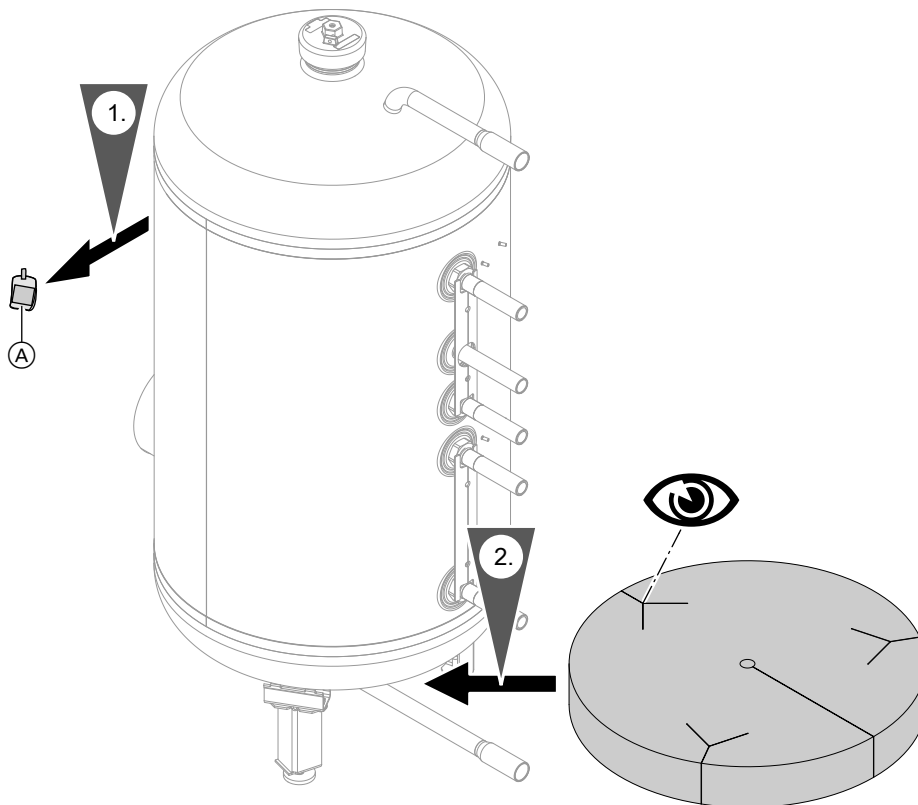


Fig. 7

Ⓐ Type plate

Fitting the thermometer sensor (if supplied) and cylinder temperature sensor

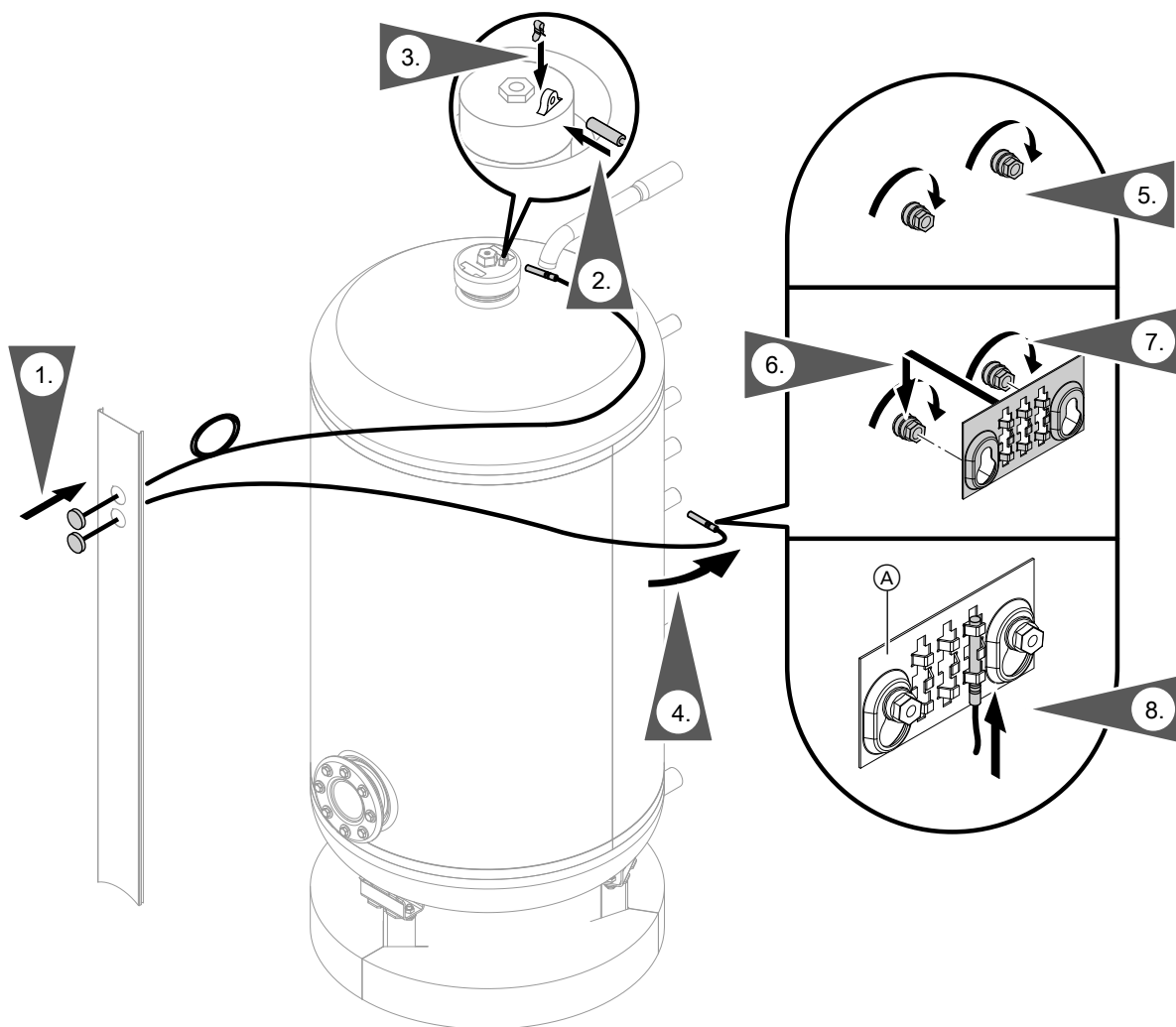


Fig. 8

1. Guide the thermometer sensor through the cover strip and insert the thermometer.

**Note**

*The cover strip is held in its vertical position by the straight capillaries. This is necessary for the rest of the installation.*

2. Insert the upper thermometer sensor as far as it will go into the hole in the cylinder cap.
3. Secure the thermometer sensor against being pulled out using clips.
4. Route the bottom thermometer sensor capillaries to the back of the cylinder body.
5. Screw the nuts onto the threaded studs. Do not tighten.

6. Push the clamps onto the threaded studs and align.

7. Tighten the nuts.

8. Depending on where the sensor is being fitted: insert the **thermometer sensors** and **cylinder temperature sensors** into clamp (A) as far as they will go.

**Note**

- **Never** wrap insulating tape around the sensors.
- When the thermal insulation is being fitted, the cylinder temperature sensor leads are routed outwards through the apertures (slots) in the rear cover strip.

## Fitting the thermal insulation jacket

### Note

- Ensure that no fleece remnants enter the DHW cylinder through the cylinder connections.
- 2 people are required for the following work.

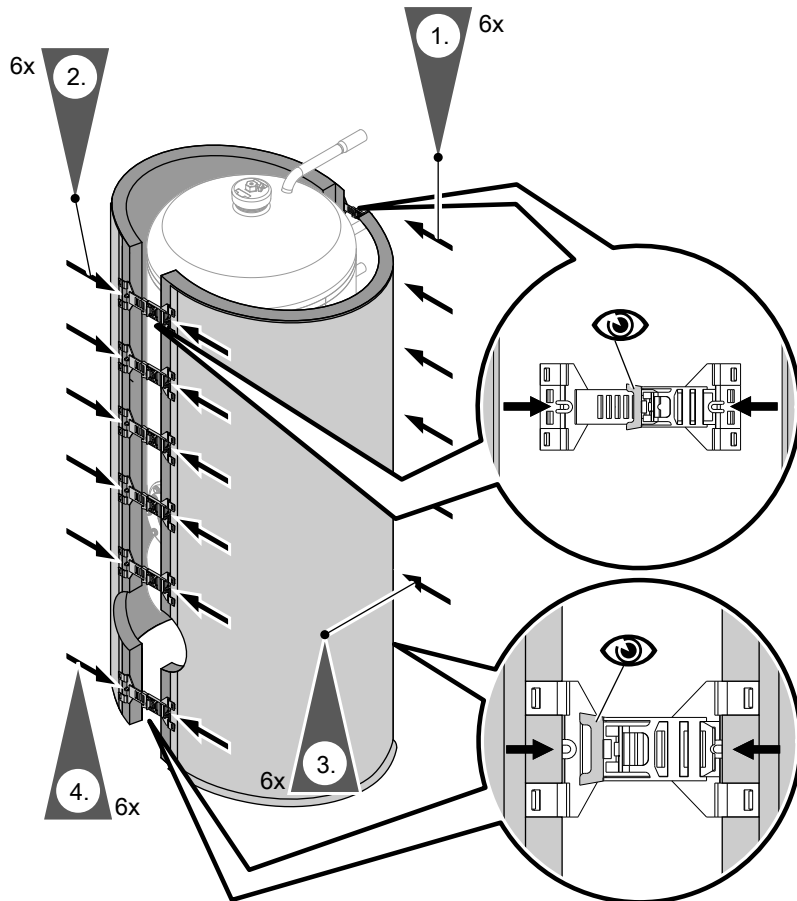


Fig. 9

1. At the back of the cylinder: attach 6 clip fasteners to the edges of the right and left sections of the insulation jacket and lay the thermal insulation jacket around the cylinder body.
2. At the front of the cylinder: attach 6 clip fasteners to the edges of the right and left sections of the thermal insulation jacket.
3. Push the clip fasteners at the back of the cylinder as close together as possible.
4. Push the clip fasteners at the front of the cylinder as close together as possible.

### Note

Leave the clip fasteners in the first notch.

2. At the front of the cylinder: attach 6 clip fasteners to the edges of the right and left sections of the thermal insulation jacket.

### Fitting the cover strips

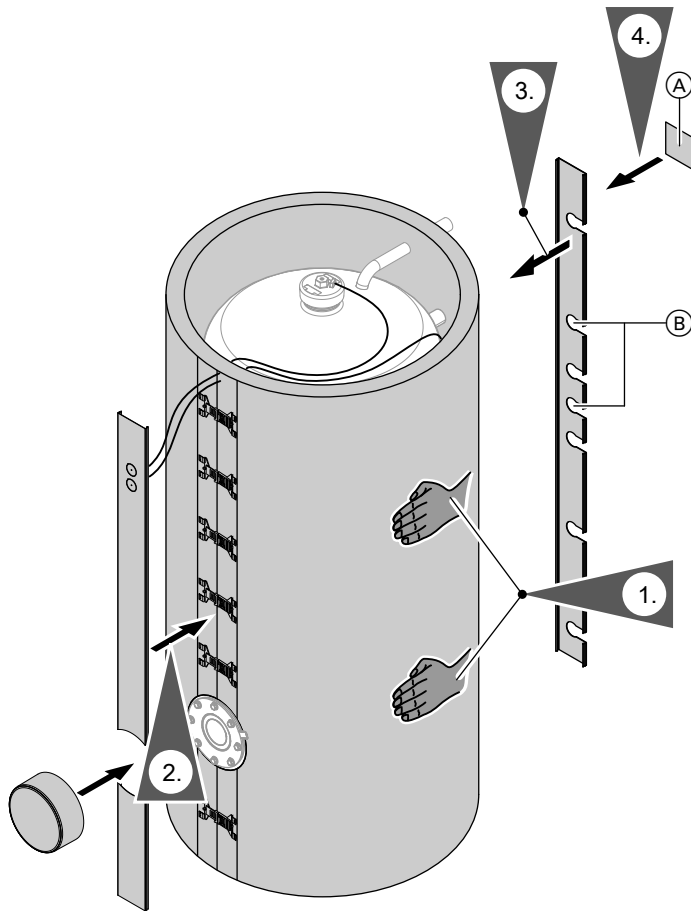


Fig. 10

Ⓐ Type plate

1. Fit the thermal insulation jacket evenly around the cylinder body by patting it.
2. Mount the front cover strip and flange cover.
3. Cut out openings Ⓑ and mount rear cover strip.
4. Affix the type plate.

### Fitting the cover

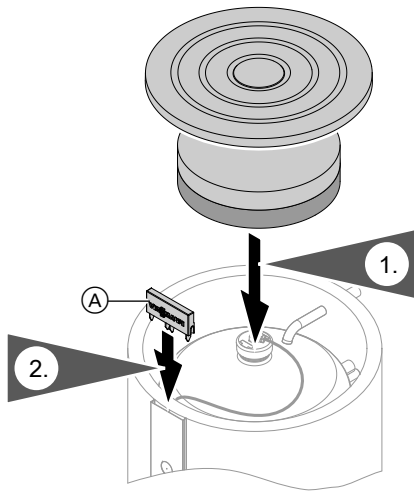


Fig. 11

Ⓐ Cap with Viessmann logo

**Note**

The soft side of the thermal insulation must rest against the cylinder body.

### Fitting the cylinder temperature sensor for solar operation

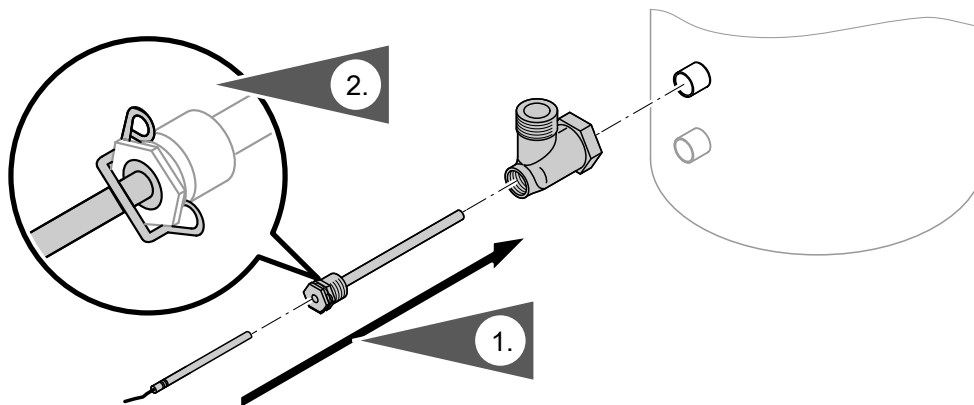


Fig. 12

1. Seal threaded elbow and sensor well (accessories) into the heating water return connection (solar return).
2. Insert the cylinder temperature sensor (part of solar control unit standard delivery) into the sensor well as far as it will go and secure against slipping out.

### Connections on the heating water side

- Connect all pipework with detachable fittings.
- Seal any connections that are not required with red brass caps.
- Adjust the temperature controller and high limit safety cut-out so that the DHW temperature in the DHW cylinder does not exceed 95 °C.
- For 300 l and heating water flow temperatures above 95 °C: Remove the pipe collars from the pipe outlets on the heating water side (pipe collars have l.h. threads).



**Please note**

- The internal indirect coil is installed with gaskets.
- Temperatures > 150 °C at the connections will damage the gaskets. Ensure an adequate safety distance when soldering and welding.
  - Realigning the connector will damage the gaskets.

## Connections on the heating water side (cont.)

### Permissible temperatures

▪ Solar side	160 °C
▪ Heating water side	160 °C

### Permissible operating pressure

▪ Solar side	10 bar (1.0 MPa)
▪ Heating water side	10 bar (1.0 MPa)

### Test pressure

▪ Solar side	16 bar (1.6 MPa)
▪ Heating water side	16 bar (1.6 MPa)



### Heating DHW by solar collectors

Via the lower indirect coil and heat supply for reheating or heating the DHW by means of a boiler via the upper internal indirect coil (parallel operation)

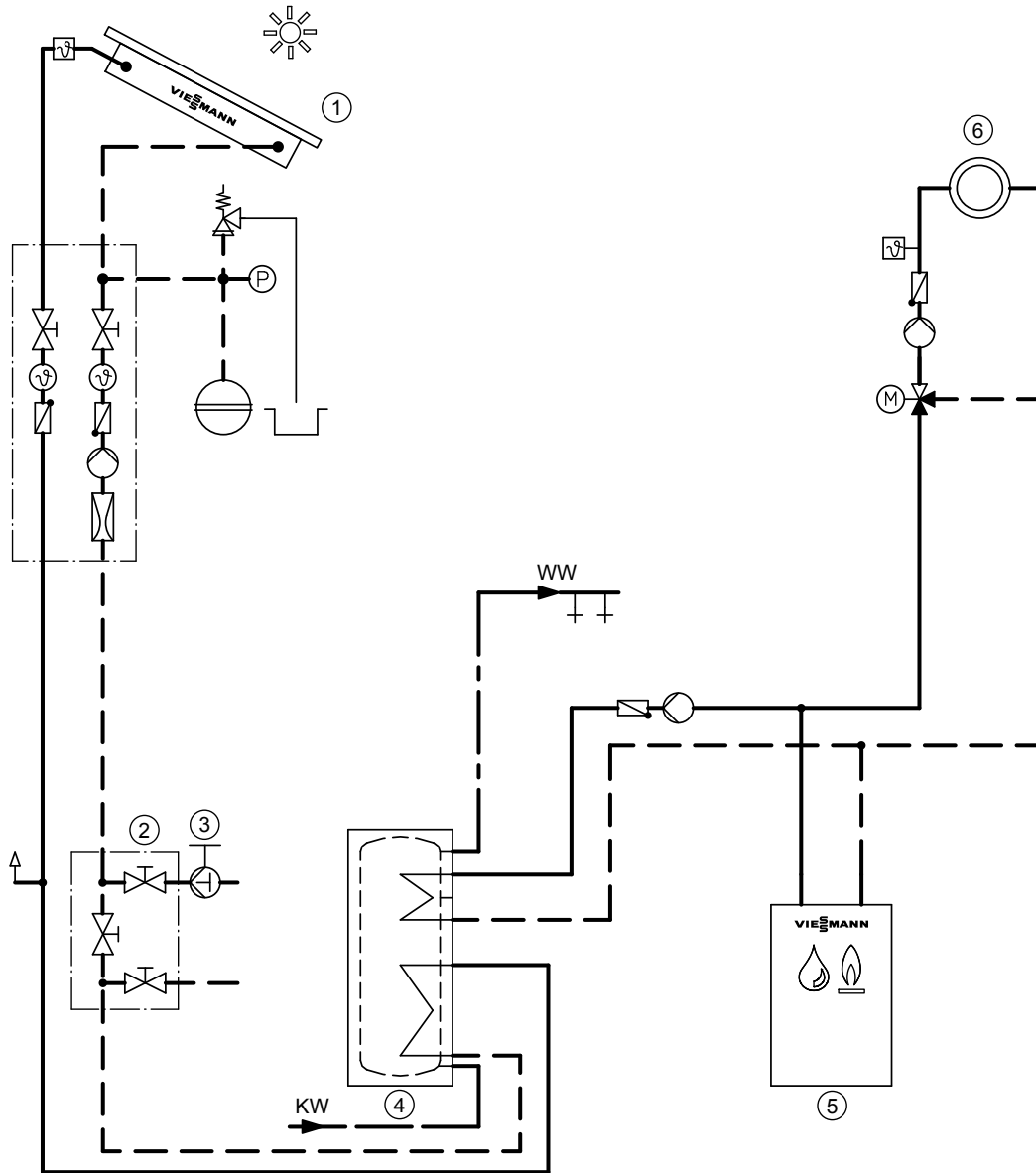


Fig. 13

- |                          |                   |
|--------------------------|-------------------|
| ① Solar collector        | ⑤ Oil/gas boiler  |
| ② Fill valve             | ⑥ Heating circuit |
| ③ Solar manual fill pump | KW Cold water     |
| ④ DHW cylinder           | WW DHW            |

### Heating DHW by a heat pump

Via the upper and lower indirect coils (coils connected in series)

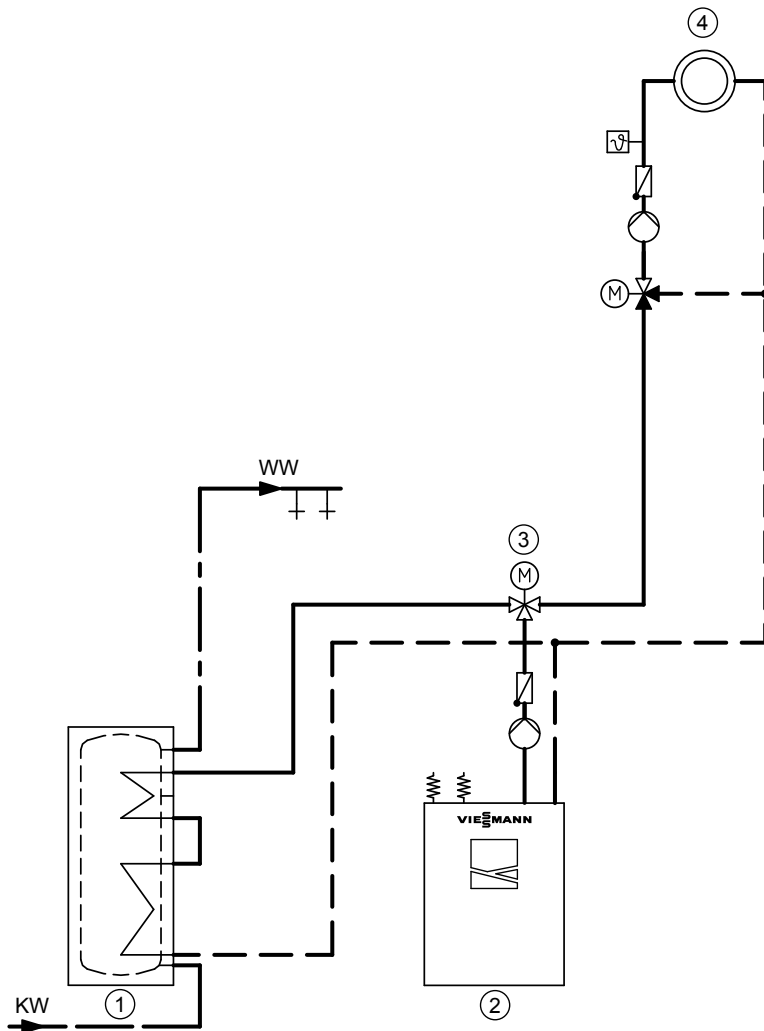


Fig. 14

- |                |                   |
|----------------|-------------------|
| ① DHW cylinder | ④ Heating circuit |
| ② Heat pump    | KW Cold water     |
| ③ 3-way valve  | WW DHW            |

1. Install the heat supply control unit.
2. Only for heating water flow temperatures in excess of 110 °C:  
Install an additional type-tested high limit safety cut-out if the system does not already have one.  
For this, use a TR/HLSC combination device (temperature limiter and high limit safety cut-out).
3. Close test ports that are not used for the installation of a sensor.

**Note**

For connections, see page 6.

## Connections on the DHW side

- For connections on the DHW side, observe DIN 1988 and DIN 4753.  
 (CH): SVGW regulations.
- Connect all pipework with detachable fittings.
- Seal any connections that are not required with red brass caps.
- Equip the DHW circulation pipe with a DHW circulation pump, check valve and time switch.
- Always install cylinder banks with connected DHW circulation.



### Please note

- The internal indirect coil is installed with gaskets.
  - Temperatures > 150 °C at the connections will damage the gaskets.  
 Ensure an adequate safety distance when soldering and welding.
  - Realigning the connector will damage the gaskets.

Permissible temperature:	95 °C
Permissible operating pressure:	10 bar (1 MPa)
Test pressure:	16 bar (1.6 MPa)

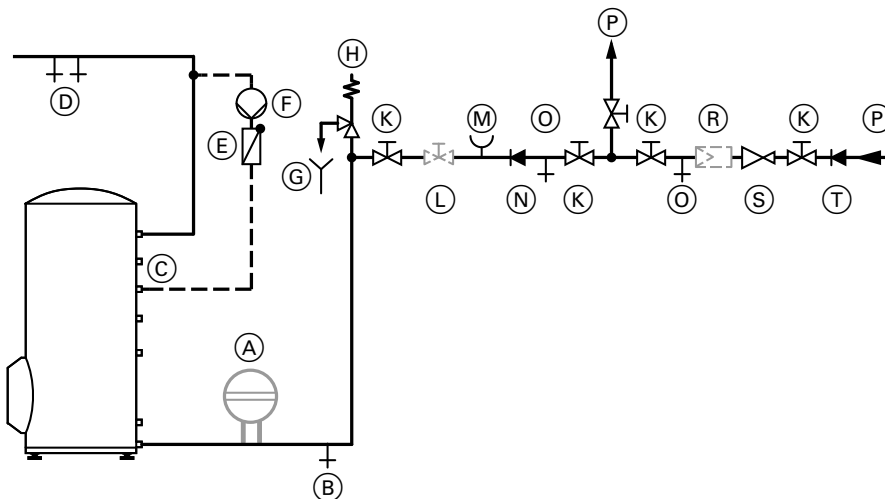


Fig. 15

- |   |                                     |
|---|-------------------------------------|
| (A) Expansion vessel                              | (L) Flow regulating valve           |
| (B) Drain   | (M) Pressure gauge connection       |
| (C) DHW circulation pipe                          | (N) Non-return valve                |
| (D) DHW   | (O) Drain                           |
| (E) Spring-loaded check valve                     | (P) Cold water                      |
| (F) DHW circulation pump                          | (R) Drinking water filter           |
| (G) Visible discharge pipe outlet point (tundish) | (S) Pressure reducer                |
| (H) Safety valve                                  | (T) Non-return valve/pipe separator |
| (K) Shut-off valve                                |                                     |

## Safety valve

The system must be equipped with a type-tested diaphragm safety valve as protection against overpressure.

Permissible operating pressure: 10 bar (1 MPa).

The safety valve must have the following connection diameter:

R ¾ (DN 20), max. heat input 150 kW.

If the heat input of the DHW cylinder exceeds 150 kW, select a sufficiently large safety valve for the heat input (see DIN 4753-1, issue 3/88, section 6.3.1).

Install the safety valve in the cold water line. Ensure it cannot be shut off from the DHW cylinder. There must be no restrictions in the pipework between the safety valve and the DHW cylinder.

## Connections on the DHW side (cont.)

Never seal off the safety valve discharge pipe. Ensure that any expelled water is safely and visibly drained into a drainage system. Position a sign close to the safety valve discharge pipe, or ideally on the safety valve itself, with the following inscription: "For safety reasons, water may be discharged from the discharge pipe during heating. Never seal."

Install the safety valve above the top edge of the DHW cylinder.

## Connecting the equipotential bonding

Connect the equipotential bonding in accordance with the requirements stipulated by your local power supply utility and VDE regulations.

ⓄH: Connect the equipotential bonding in accordance with the technical requirements stipulated by your local power supply utility and SEV regulations.

## Commissioning



Service instructions

## Specification

Cylinder capacity	I	300	500
<b>DIN registration number</b>		Applied for	
<b>Standby heat loss</b>	kWh/24 h	1.06	1.37
<b>Dimensions</b>			
Length a (Ø)			
▪ Incl. thermal insulation	mm	667	1022
▪ Excl. thermal insulation	mm	–	715
Width b			
▪ Incl. thermal insulation	mm	744	1084
▪ Excl. thermal insulation	mm	–	954
Height c			
▪ Incl. thermal insulation	mm	1734	1852
▪ Excl. thermal insulation	mm	–	1667
Height when tilted			
▪ Incl. thermal insulation	mm	1825	–
▪ Excl. thermal insulation	mm	–	1690
<b>Weight</b> incl. thermal insulation	kg	112.4	122.2
<b>Connections</b> (male thread)			
Indirect coils	G	1	1
Cold water, DHW	G	1	1¼
DHW circulation	G	1	1







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